SEQUENCE LISTING

<110> E. I. du Pont de Nemours and Company

<120> PLANT DISEASE RESISTANCE GENES

<130> BB1313

<140> 09/857,896
<141>

<150> 60/112,737
<151> 1998-12-18

<160> 42

<170> Microsoft Office 97

<210> 1
<211> 1600
<212> DNA
<213> Oryza sativa

<400> 1
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gaagttgtct ctgactgtgc cattatgctc ttcaatgttc atggatggca taacttgttc 180
tggttctcta caatcccccc tgtagtaact ttagcagttg gaacaaagct gcaggctata 240
attgcaatga tggctgttga aattaaagag aggcatacag taattcaagg aatgccggtg 300
gtgaaactca gtgatgaaca tttttggttc gggaagccac gtctggttct tcatcttatc 360
catttcgcgt catttcaggt aacttgaaca taaagcttgc ggaaaagctt ttgcgtaaaa 420
tgcacaacct tgactcactt acatccacca aatgatgaat gtcatgcacc atagacatct 480
ggatagcagt gtcaaattga attttcacta tcatgattgc taaggaaata aagtatcagt 540
gtttagagaa tactttgttg ccacggaata cttaatctct agtctttagc atgcacttac 600
ttttgaatct gaagccacaa ggctgcgaaa ataggagtgt atttttcctt catctaatag 660
ctcttcattg ttcttgcaga atgcatttga aattacatac ttcttttgga tttgggtaaa 720
gattgtctcc atttcaaaat ttgaaaaact gttttacggc acagctataa tttctctgat 780
gatgctgaac ttttgtgcag tacgaattcg ggttgagatc ctgcttccat gacaactttg 840
agcttatcat cgccagagtc tgccttgggg ttgtcgttca attcatgtgc agctatatca 900
cacttccact ctatgctctc gtatctcaga tgggttcaca gatgaagaga acgattttcg 960
acgagcagac ggcgaaggcc ctgaagaaat ggcacaaggc agcagtggtg aagaagaagc 1020
agcagaaggg gtcatcccat gagccaggtt cagagacacc gggcacggag acgacgacga 1080
cgacggcgac ggcaacggag gagagccagc gagaacgcga cgccgcggcc atgccggtgc 1140
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cggactgctc cgacacggac acgccgttcg cgtcgccgac gaggctcctg ataccgccga 1260
caaagcagcg gagcctcgac gccgggaggg cggaggtgcg cgtggacgtc gactcgacgc 1320
cgacgccgac accaccggag cgccatgaca gcttctcctt cccgaggttg cctgctcaca 1380
atttgcagca gaaatgacca aatgatcatc catcctaagt tcctaaccat cagtagtagt 1440
agtagcagca tcaactatac atgtaattga aattgatggt ggtgacaagt gtgtgtagag 1500
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cggagctgag aaaatgccat ttcacgtaaa aaaaaaaaaa 1600

<210> 2
<211> 290
<212> PRT
<213> Oryza sativa

<400> 2
Ala Ile Met Leu Phe Asn Val His Gly Trp His Asn Leu Phe Trp Phe
1 5 10 15

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Ser Thr Ile Pro Leu Val Val Thr Leu Ala Val Gly Thr Lys Leu Gln
             20                  25                  30

Ala Ile Ile Ala Met Met Ala Val Glu Ile Lys Glu Arg His Thr Val
         35                  40                  45

Ile Gln Gly Met Pro Val Val Lys Leu Ser Asp Glu His Phe Trp Phe
     50                  55                  60

Gly Lys Pro Arg Leu Val Leu His Leu Ile His Phe Ala Ser Phe Gln
 65                  70                  75                  80

Asn Ala Phe Glu Ile Thr Tyr Phe Phe Trp Ile Trp Tyr Glu Phe Gly
                 85                  90                  95

Leu Arg Ser Cys Phe His Asp Asn Phe Glu Leu Ile Ile Ala Arg Val
            100                 105                 110

Cys Leu Gly Val Val Val Gln Phe Met Cys Ser Tyr Ile Thr Leu Pro
        115                 120                 125

Leu Tyr Ala Leu Val Ser Gln Met Gly Ser Gln Met Lys Arg Thr Ile
    130                 135                 140

Phe Asp Glu Gln Thr Ala Lys Ala Leu Lys Lys Trp His Lys Ala Ala
145                 150                 155                 160

Val Val Lys Lys Lys Gln Gln Lys Gly Ser Ser His Glu Pro Gly Ser
                165                 170                 175

Glu Thr Pro Gly Thr Glu Thr Thr Thr Thr Thr Ala Thr Ala Thr Glu
            180                 185                 190

Glu Ser Gln Arg Glu Arg Asp Ala Ala Ala Met Pro Val Arg His Leu
        195                 200                 205

His Arg Tyr Lys Thr Ile Ala His Val Gly Ala Thr Gly Thr Leu Ser
    210                 215                 220

Asp Ser Asp Cys Ser Asp Thr Asp Thr Pro Phe Ala Ser Pro Thr Arg
225                 230                 235                 240

Leu Leu Ile Pro Pro Thr Lys Gln Arg Ser Leu Asp Ala Gly Arg Ala
                245                 250                 255

Glu Val Arg Val Asp Val Asp Ser Thr Pro Thr Pro Thr Pro Pro Glu
            260                 265                 270

Arg His Asp Ser Phe Ser Phe Pro Arg Leu Pro Ala His Asn Leu Gln
        275                 280                 285

Gln Lys
    290
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<210> 3
<211> 501
<212> DNA
<213> Oryza sativa

<220>
<221> unsure
<222> (335)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (415)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (445)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (479)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (482)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (493)
<223> n = A, C, G, or T

<400> 3
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agcctgtgag aggctgattg cgcggcggcc atggccggag ggggagggaa ggcggcggcg 180
ggcggcggcg aagcgccggc gataacgctg gagcacacac cgacgtggat cgtctccgcc 240
gtctgcttcg tcatcgtcat catctcgctg ctcttcgagc gcctgctcca ccgcctgggc 300
aagaggttga agaagaccgc aagaaccgct ctacnaggga ccctcaagtc aaagaagact 360
gatgctgctg gggtcatctc gctgctgctg aagtttccag ggctgacgca gaagnagctg 420
aagcacctca tggacactgc agcgncaact cgactcaggg cccaagacgc aagacacgnc 480
anggcgcgcc ggntgagagt c 501

<210> 4
<211> 81
<212> PRT
<213> Oryza sativa

<220>
<221> UNSURE
<222> (62)
<223> Xaa = ANY AMINO ACID

<400> 4
Met Ala Gly Gly Gly Gly Lys Ala Ala Ala Gly Gly Gly Glu Ala Pro
1 5 10 15

Ala Ile Thr Leu Glu His Thr Pro Thr Trp Ile Val Ser Ala Val Cys
20 25 30

Phe Val Ile Val Ile Ile Ser Leu Leu Phe Glu Arg Leu Leu His Arg
35 40 45

```
Leu Gly Lys Arg Leu Lys Lys Thr Ala Arg Thr Ala Leu Xaa Gly Thr
     50                  55                  60

Leu Lys Ser Lys Lys Thr Asp Ala Ala Gly Val Ile Ser Leu Leu Leu
 65                  70                  75                  80

Lys
```

<210> 5
<211> 513
<212> DNA
<213> Oryza sativa

<220>
<221> unsure
<222> (425)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (492)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (507)
<223> n = A, C, G, or T

<400> 5

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acagatggga tcaaacatga agaagaccat cttcgaggag cagacgatga aggccctgat  60
gaactggagg aagacggcga gggagaagaa gaagctccgg gacgccgacg agttcctagc 120
acagatgagc ggcgacacga cgccgagccg cggctcgtcg ccggtgcacc tgctgcacaa 180
gcaaagggtg aggtcggaag atccgccgag cgcaccggca tcgccggggt tcgccggaga 240
ggccagggac atgtacccgg tgcccgtggc gccggtggtg cggccgcatg ggtttaaccg 300
gatggacccg gataagagga gggcggcgtc ctcgtcggcc atccaagttg acatcgccga 360
ttctgatttc tccttcagtg tacaacggtg atggccgaaa ggtttctctg tacttaaagt 420
tgtanagcag caaatatagg aagtacaatg tatagttggt acactacata tagaggattt 480
agaaaagttc antcgatttt tttaagnaac aat                               513
```

<210> 6
<211> 129
<212> PRT
<213> Oryza sativa

<400> 6

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Gln Met Gly Ser Asn Met Lys Lys Thr Ile Phe Glu Glu Gln Thr Met
  1               5                  10                  15

Lys Ala Leu Met Asn Trp Arg Lys Thr Ala Arg Glu Lys Lys Lys Leu
             20                  25                  30

Arg Asp Ala Asp Glu Phe Leu Ala Gln Met Ser Gly Asp Thr Thr Pro
         35                  40                  45

Ser Arg Gly Ser Ser Pro Val His Leu Leu His Lys Gln Arg Val Arg
     50                  55                  60

Ser Glu Asp Pro Pro Ser Ala Pro Ala Ser Pro Gly Phe Ala Gly Glu
```

```
 65                  70                  75                  80

Ala Arg Asp Met Tyr Pro Val Pro Val Ala Pro Val Val Arg Pro His
                 85                  90                  95

Gly Phe Asn Arg Met Asp Pro Asp Lys Arg Arg Ala Ala Ser Ser Ser
            100                 105                 110

Ala Ile Gln Val Asp Ile Ala Asp Ser Asp Phe Ser Phe Ser Val Gln
        115                 120                 125

Arg
```

<210> 7
<211> 1745
<212> DNA
<213> Glycine max

<400> 7

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agttcactcc gacgtgggtt gtggccgcct tttgcacagt catcgtcgcc atttccctcg  120
ccgctgagcg cctccttcat tatggcggaa agtttctcaa agccaaggac cagaagccgc  180
tctacgaagc tctccagaag atcaaagaag agctgatgct tttggggttc atttccctgc  240
ttttgacggt tacacaaaac ggcattacca aaatctgcgt tcgaccctct ttgacgctcc  300
acatgctccc gtgtaatctc cacgacgctc cagcaaacca cgaatctcat ttccagacat  360
ttttccctgg aacagccagg cgccttctct ctggggaaca ctccaccccc gagtccgcct  420
ctaaaattgg ttattgctct cgcaagcaca aggtgccttt attatctgtg gaagcacttc  480
accaccttca catcttcatt tttgtcctcg ctgtcgtaca cgtctccttt tccgtgctca  540
ccgttgtctt tggaggcgcc agaatacgtc agtggaaaca ctgggaagat tctattgcaa  600
aacagaacta cgagactgac cgagttctca aaccaaaggt cactcaggtt caccagcatg  660
attttatcag gggtcgtttt gctggttttg gcaaagactc tgctatagtc ggttggttgc  720
tatccttttct aaagcaattt tatggatctg tgacaaaatc agattatgtg acattgcgac  780
atggtttcat tatgacccac tgcaggacaa atccgaagtt taattttcac aagtacatga  840
ttcgtgccct cgaagatgat ttcaagcaag ttgttggtat aagttgggat ctttggctct  900
ttgtggttat cttcttgtta cttaatatca atggttggca tacgtatttc tggattgctt  960
ttattcctgt cattctttta cttgctgtgg gcactaagct ggagcacata ataacccaac 1020
tagctcatga agtacctgag aagcatgctg ccatagaagg tgatttagtt gtgcagccat 1080
cagatgaaca tttttggttt catcggcccc atgttgtcct ctttttgatt cactttatcc 1140
ttttccaaaa tgcctttgag atagcatttt ttttctggat atgggtcaca tatggatttg 1200
actcctgtat aatgggacaa gttcgataca ttgttccaag gcttgttatt ggggtattta 1260
ttcaggtact atgtagctac agcaccctgc cactgtatgc aattgttacg cagatgggaa 1320
ctcactataa gcgggcaata tttaatgatc atttgcaaca aaacattgtt ggttgggcac 1380
agaaggcgaa gaagaggaaa ggactaaaag ctgatggcaa tcctggccaa ggaagttctc 1440
aggagagtgc taatacagga atccagcttg ggtcaatttt caagaaggca actgctccag 1500
gagacagttc ttctgccccc aaagctgacg gaatcagctc agtgtagcta tttaagtgaa 1560
gatttacagt cttatttttgt aaagttgctc acagattgca gttttcttta tattattttc 1620
tttgctaaca taatgtagca ttgtgggaca tgtgtttgac ttggtgtacg cataaggtcg 1680
aagtactata tgagtagatg ctagtaatgc tattgtcatt tctaaaaaaa aaaaaaaaaa 1740
aaaaa                                                             1745
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<210> 8
<211> 506
<212> PRT
<213> Glycine max

<400> 8

```
Met Ser Gly Gly Gly Glu Glu Gly Ala Thr Leu Glu Phe Thr Pro Thr
  1               5                  10                  15
```

```
Trp Val Val Ala Ala Phe Cys Thr Val Ile Val Ala Ile Ser Leu Ala
            20                  25                  30

Ala Glu Arg Leu Leu His Tyr Gly Gly Lys Phe Leu Lys Ala Lys Asp
        35                  40                  45

Gln Lys Pro Leu Tyr Glu Ala Leu Gln Lys Ile Lys Glu Glu Leu Met
    50                  55                  60

Leu Leu Gly Phe Ile Ser Leu Leu Leu Thr Val Thr Gln Asn Gly Ile
65                  70                  75                  80

Thr Lys Ile Cys Val Arg Pro Ser Leu Thr Leu His Met Leu Pro Cys
                85                  90                  95

Asn Leu His Asp Ala Pro Ala Asn His Glu Ser His Phe Gln Thr Phe
            100                 105                 110

Phe Pro Gly Thr Ala Arg Arg Leu Leu Ser Gly Glu His Ser Thr Pro
        115                 120                 125

Glu Ser Ala Ser Lys Ile Gly Tyr Cys Ser Arg Lys His Lys Val Pro
    130                 135                 140

Leu Leu Ser Val Glu Ala Leu His His Leu His Ile Phe Ile Phe Val
145                 150                 155                 160

Leu Ala Val Val His Val Ser Phe Ser Val Leu Thr Val Val Phe Gly
                165                 170                 175

Gly Ala Arg Ile Arg Gln Trp Lys His Trp Glu Asp Ser Ile Ala Lys
            180                 185                 190

Gln Asn Tyr Glu Thr Asp Arg Val Leu Lys Pro Lys Val Thr Gln Val
        195                 200                 205

His Gln His Asp Phe Ile Arg Gly Arg Phe Ala Gly Phe Gly Lys Asp
    210                 215                 220

Ser Ala Ile Val Gly Trp Leu Leu Ser Phe Leu Lys Gln Phe Tyr Gly
225                 230                 235                 240

Ser Val Thr Lys Ser Asp Tyr Val Thr Leu Arg His Gly Phe Ile Met
                245                 250                 255

Thr His Cys Arg Thr Asn Pro Lys Phe Asn Phe His Lys Tyr Met Ile
            260                 265                 270

Arg Ala Leu Glu Asp Asp Phe Lys Gln Val Val Gly Ile Ser Trp Asp
        275                 280                 285

Leu Trp Leu Phe Val Val Ile Phe Leu Leu Leu Asn Ile Asn Gly Trp
    290                 295                 300

His Thr Tyr Phe Trp Ile Ala Phe Ile Pro Val Ile Leu Leu Leu Ala
305                 310                 315                 320

Val Gly Thr Lys Leu Glu His Ile Ile Thr Gln Leu Ala His Glu Val
                325                 330                 335
```

```
Pro Glu Lys His Ala Ala Ile Glu Gly Asp Leu Val Val Gln Pro Ser
            340                 345                 350

Asp Glu His Phe Trp Phe His Arg Pro His Val Val Leu Phe Leu Ile
        355                 360                 365

His Phe Ile Leu Phe Gln Asn Ala Phe Glu Ile Ala Phe Phe Phe Trp
    370                 375                 380

Ile Trp Val Thr Tyr Gly Phe Asp Ser Cys Ile Met Gly Gln Val Arg
385                 390                 395                 400

Tyr Ile Val Pro Arg Leu Val Ile Gly Val Phe Ile Gln Val Leu Cys
                405                 410                 415

Ser Tyr Ser Thr Leu Pro Leu Tyr Ala Ile Val Thr Gln Met Gly Thr
            420                 425                 430

His Tyr Lys Arg Ala Ile Phe Asn Asp His Leu Gln Gln Asn Ile Val
        435                 440                 445

Gly Trp Ala Gln Lys Ala Lys Lys Arg Lys Gly Leu Lys Ala Asp Gly
    450                 455                 460

Asn Pro Gly Gln Gly Ser Ser Gln Glu Ser Ala Asn Thr Gly Ile Gln
465                 470                 475                 480

Leu Gly Ser Ile Phe Lys Lys Ala Thr Ala Pro Gly Asp Ser Ser Ser
                485                 490                 495

Ala Pro Lys Ala Asp Gly Ile Ser Ser Val
            500                 505
```

<210> 9
<211> 563
<212> DNA
<213> Glycine max

<220>
<221> unsure
<222> (454)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (504)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (531)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (559)
<223> n = A, C, G, or T

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tttcgtctgg acagtggcca cgcccggctt gaagaaatgc ttccatatgc acatcggtct 180
gagcatcatg aaggtcgtgc tggggctggc tcttcagttc ctctgcagct atatcacctt 240
ccccctctac gcgctcgtca cacagatggg atcgaacatg aagaggtcca tcttcgacga 300
gcagacggcc aaggcgctga ccaactggcg gaacacggcc aaggagaaga agaaggtccg 360
agacacggac atgctgatgg cgcagatgat cggcgacgcg acgcccagcc gaggcacgtc 420
gccgatgcct agccgggctt cgtcaccggt gcanctgctt cacaagggca tgggacggtc 480
cgacgattcc cagagcgcgc cganctcgcc aaggaccatg gaggaagcta nggacatgta 540
cccggttgtg gtggcgcanc ccg                                        563
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<210> 10
<211> 187
<212> PRT
<213> Glycine max

<220>
<221> UNSURE
<222> (151)
<223> Xaa = ANY AMINO ACID

<220>
<221> UNSURE
<222> (168)
<223> Xaa = ANY AMINO ACID

<220>
<221> UNSURE
<222> (177)
<223> Xaa = ANY AMINO ACID

<220>
<221> UNSURE
<222> (186)
<223> Xaa = ANY AMINO ACID

<400> 10

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Val Ile Lys Gly Ala Pro Val Val Glu Pro Ser Asn Lys Phe Phe Trp
  1               5                  10                  15

Phe His Arg Pro Asp Trp Val Leu Phe Phe Ile His Leu Thr Leu Phe
             20                  25                  30

Gln Asn Ala Phe Gln Met Ala His Phe Val Trp Thr Val Ala Thr Pro
         35                  40                  45

Gly Leu Lys Lys Cys Phe His Met His Ile Gly Leu Ser Ile Met Lys
     50                  55                  60

Val Val Leu Gly Leu Ala Leu Gln Phe Leu Cys Ser Tyr Ile Thr Phe
 65                  70                  75                  80

Pro Leu Tyr Ala Leu Val Thr Gln Met Gly Ser Asn Met Lys Arg Ser
                 85                  90                  95

Ile Phe Asp Glu Gln Thr Ala Lys Ala Leu Thr Asn Trp Arg Asn Thr
            100                 105                 110

Ala Lys Glu Lys Lys Lys Val Arg Asp Thr Asp Met Leu Met Ala Gln
        115                 120                 125
```

```
Met Ile Gly Asp Ala Thr Pro Ser Arg Gly Thr Ser Pro Met Pro Ser
    130                 135                 140

Arg Ala Ser Ser Pro Val Xaa Leu Leu His Lys Gly Met Gly Arg Ser
145                 150                 155                 160

Asp Asp Ser Gln Ser Ala Pro Xaa Ser Pro Arg Thr Met Glu Glu Ala
                165                 170                 175

Xaa Asp Met Tyr Pro Val Val Val Ala Xaa Pro
            180                 185
```

<210> 11
<211> 1938
<212> DNA
<213> Glycine max

<220>
<221> unsure
<222> (1370)
<223> n = A, C, G, or T

<400> 11

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gttgttttca tggctctgtt ttggaggttt ggccatggca gcaggtgaaa gtagcagcag  180
ctccagagac ctagaccaga caccaacgtg ggccgttgct gctgtctgta ctgttttcat  240
cttggtatcc atagcactcg aaaagagtct ccacaaagtt gggacgtggc ttggacaaaa  300
gaaaaagaag gctttgcttg aagctctgga gaaggtcaag gctgagttga tgattttagg  360
tttcatttca ctgcttttga ctttcgggca gagttacatt gtcagaatat gtattcccga  420
aaagctggca gacaatatgt taccatgtcc gtataaatat aaggaggaca aaaaggcatc  480
agatagtgaa gaggaacatc gtaggaaact tttatcttat gaacgtagat atttagctgc  540
tgatactacc tcgttcaaat gcagcaggga gggacacgag ccacttttat ctgtcaatgg  600
attgcaccag ttacacatcc tccgtatcct cttagcagtc attcatgtgc tttacagtgc  660
tattacaatg atgcttggaa gactaaagat acttggatgg aaggcatggg aagcgggact  720
tcaactccat aattatgagt tcgccaatgc tgcttccaaa attaaactta tcatggaaac  780
atcattcgtg aggagcccca tccagttttt gattaggatt cccatcttct tctacattcg  840
ctgcttcttt aggcagttct ataggtctgt aaataggact gactacctca ctttgcgcaa  900
tgggtttatc actgtccacc tggctcctgg aagtaaattt aatttcccaa agtatatcaa  960
aagatcatta gaagatgact tcaaggtggt cgtgggagtt agtcctatcc tctgggcatc 1020
agttgtagtt taccttctca tcaatgttaa tggatggcac accgtacttt gggcagcctt 1080
aattcctgtt gttataattt tggctgttgg aacaaaactt caagccatat tggcaaatat 1140
ggctcttgaa atcacggaaa gacatgcagt tgtccaagga atgcctcttg tccaaggctc 1200
agacaaatac ttttggtttg gtcagccaca gttagttcta catcttatcc attttgcttt 1260
gttccagaat gcgttccaaa taacatatat cttgtggata tggtattctt ttgggttgag 1320
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atgcctctgc agctatatca cccttccatt atatgctctt gtaactcaga tgggttcaag 1440
gatgaaaaca gcaatatttg acgagcaaac aaacaaggct ctgaagaaat ggcacatggc 1500
tgcgaagaag aagcagggag gagcagtgac gctaggaaag tcgagtgcac gaatcatgga 1560
tggaagcccc attggtaatt cttcaacagt gcactcactg gccccacact acaccgtttc 1620
aaaactactg gccactcaac ccgctcctca tcaacagcgt acgaggatca agatcaagat 1680
catgaatatg aatccgatgg tgttgagttg tctccgttgg cgtcgcaaac aacaagcttc 1740
attgtaagag ttgatcatgg cgaccaacaa caagcagaac atagacaaga tagtgaggga 1800
gaaaccaaca gtagtagtga aggtgaattc tcatttgtca aacctgaccc tgtggaaatt 1860
agaaccacca catagcatat gatcatatat tcatctctat tcttatacat aaatctttac 1920
ataaaaaaaa aaaaaaaa                                              1938
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<210> 12
<211> 530
<212> PRT

<213> Glycine max

<220>
<221> UNSURE
<222> (406)
<223> Xaa = ANY AMINO ACID

<400> 12

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Met Ala Ala Gly Glu Ser Ser Ser Ser Ser Arg Asp Leu Asp Gln Thr
  1               5                  10                  15

Pro Thr Trp Ala Val Ala Ala Val Cys Thr Val Phe Ile Leu Val Ser
             20                  25                  30

Ile Ala Leu Glu Lys Ser Leu His Lys Val Gly Thr Trp Leu Gly Gln
         35                  40                  45

Lys Lys Lys Lys Ala Leu Leu Glu Ala Leu Glu Lys Val Lys Ala Glu
     50                  55                  60

Leu Met Ile Leu Gly Phe Ile Ser Leu Leu Leu Thr Phe Gly Gln Ser
 65                  70                  75                  80

Tyr Ile Val Arg Ile Cys Ile Pro Glu Lys Leu Ala Asp Asn Met Leu
                 85                  90                  95

Pro Cys Pro Tyr Lys Tyr Lys Glu Asp Lys Lys Ala Ser Asp Ser Glu
            100                 105                 110

Glu Glu His Arg Arg Lys Leu Leu Ser Tyr Glu Arg Arg Tyr Leu Ala
        115                 120                 125

Ala Asp Thr Thr Ser Phe Lys Cys Ser Arg Glu Gly His Glu Pro Leu
    130                 135                 140

Leu Ser Val Asn Gly Leu His Gln Leu His Ile Leu Arg Ile Leu Leu
145                 150                 155                 160

Ala Val Ile His Val Leu Tyr Ser Ala Ile Thr Met Met Leu Gly Arg
                165                 170                 175

Leu Lys Ile Leu Gly Trp Lys Ala Trp Glu Ala Gly Leu Gln Leu His
            180                 185                 190

Asn Tyr Glu Phe Ala Asn Ala Ala Ser Lys Ile Lys Leu Ile Met Glu
        195                 200                 205

Thr Ser Phe Val Arg Ser Pro Ile Gln Phe Leu Ile Arg Ile Pro Ile
    210                 215                 220

Phe Phe Tyr Ile Arg Cys Phe Phe Arg Gln Phe Tyr Arg Ser Val Asn
225                 230                 235                 240

Arg Thr Asp Tyr Leu Thr Leu Arg Asn Gly Phe Ile Thr Val His Leu
                245                 250                 255

Ala Pro Gly Ser Lys Phe Asn Phe Pro Lys Tyr Ile Lys Arg Ser Leu
            260                 265                 270

Glu Asp Asp Phe Lys Val Val Val Gly Val Ser Pro Ile Leu Trp Ala
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        275                 280                 285

Ser Val Val Val Tyr Leu Leu Ile Asn Val Asn Gly Trp His Thr Val
    290                 295                 300

Leu Trp Ala Ala Leu Ile Pro Val Val Ile Ile Leu Ala Val Gly Thr
305                 310                 315                 320

Lys Leu Gln Ala Ile Leu Ala Asn Met Ala Leu Glu Ile Thr Glu Arg
                325                 330                 335

His Ala Val Val Gln Gly Met Pro Leu Val Gln Gly Ser Asp Lys Tyr
            340                 345                 350

Phe Trp Phe Gly Gln Pro Gln Leu Val Leu His Leu Ile His Phe Ala
        355                 360                 365

Leu Phe Gln Asn Ala Phe Gln Ile Thr Tyr Ile Leu Trp Ile Trp Tyr
    370                 375                 380

Ser Phe Gly Leu Arg Asn Cys Phe Arg Thr Asp Tyr Lys Leu Ala Val
385                 390                 395                 400

Val Lys Val Ala Leu Xaa Met Met Leu Cys Leu Cys Ser Tyr Ile Thr
                405                 410                 415

Leu Pro Leu Tyr Ala Leu Val Thr Gln Met Gly Ser Arg Met Lys Thr
            420                 425                 430

Ala Ile Phe Asp Glu Gln Thr Asn Lys Ala Leu Lys Lys Trp His Met
        435                 440                 445

Ala Ala Lys Lys Lys Gln Gly Gly Ala Val Thr Leu Gly Lys Ser Ser
    450                 455                 460

Ala Arg Ile Met Asp Gly Ser Pro Ile Gly Asn Ser Ser Thr Val His
465                 470                 475                 480

Ser Leu Ala Pro His Tyr Thr Val Ser Lys Leu Leu Ala Thr Gln Pro
                485                 490                 495

Ala Pro His Gln Gln Arg Thr Arg Ile Lys Ile Lys Ile Met Asn Met
            500                 505                 510

Asn Pro Met Val Leu Ser Cys Leu Arg Trp Arg Arg Lys Gln Gln Ala
        515                 520                 525

Ser Leu
    530
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<210> 13
<211> 357
<212> DNA
<213> Glycine max

<400> 13

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gcacgagggg atatagagag aggtttagaa gagtgaagag aaaatgggtg gtggaggtga  60
agaagggaac aatttggaat tcactcccac ttgggttgtt gctgttgttt gttctgtgat 120
tgttgctgct tcgtttgctg ctgaaaggtt tcttcattat ggagggaagt ttctcaagag 180
gaagaatcag aagccactct atgaagccct ggaaaaaatc aaagaagagt tgatgctgtt 240
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gggctttatt tctctgctac tgacaataac acaaaatggg atcatcagaa tttgtgttcc 300
agtgggttgg actcaccata tgcttccttg cagtctaaag gataaaaaaa aaaaaaa 357

<210> 14
<211> 104
<212> PRT
<213> Glycine max

<400> 14
Met Gly Gly Gly Gly Glu Glu Gly Asn Asn Leu Glu Phe Thr Pro Thr
1 5 10 15

Trp Val Val Ala Val Val Cys Ser Val Ile Val Ala Ala Ser Phe Ala
20 25 30

Ala Glu Arg Phe Leu His Tyr Gly Gly Lys Phe Leu Lys Arg Lys Asn
35 40 45

Gln Lys Pro Leu Tyr Glu Ala Leu Glu Lys Ile Lys Glu Glu Leu Met
50 55 60

Leu Leu Gly Phe Ile Ser Leu Leu Leu Thr Ile Thr Gln Asn Gly Ile
65 70 75 80

Ile Arg Ile Cys Val Pro Val Gly Trp Thr His His Met Leu Pro Cys
85 90 95

Ser Leu Lys Asp Lys Lys Lys Lys
100

<210> 15
<211> 678
<212> DNA
<213> Triticum aestivum

<400> 15
gcacgagcgt catcaagggg gcgcccgtgg ttgagcccag caacaagttc ttctggttcc 60
accgccccga ctgggtcctc ttcttcatac acctgacgct gttccagaat gcgtttcaga 120
tggcacattt cgtctggaca gtggccacgc ccggcttgaa gaaatgcttc catatgcaca 180
tcggtctgag catcatgaag gtcgtgctgg ggctggctct tcagttcctc tgcagctata 240
tcaccttccc cctctacgcg ctcgtcacac agatgggatc gaacatgaag aggtccatct 300
tcgacgagca gacggccaag gcgctgacca actggcggaa cacggccaag gagaagaaga 360
aggtccgaga cacggacatg ctgatggcgc agatgatcgg cgacgcgacg cccagccgag 420
gcacgtcgcc gatgcctagc cgggcttcgt caccggtgca cctgcttcac aagggcatgg 480
gacggtccga cgatccccag agcgcgccga cctcgccaag gaccatggag gaggctaggg 540
acatgtaccc ggttgtggtg gcgcatcccg tgcacagact aaatcctgct gacaggcgga 600
ggtcggtctc ttcgtcggga ctcgaggccg acatcccagc gcagattttt ccttcaacca 660
gggatgagac caagtttt 678

<210> 16
<211> 221
<212> PRT
<213> Triticum aestivum

<400> 16
Thr Ser Val Ile Lys Gly Ala Pro Val Val Glu Pro Ser Asn Lys Phe
1 5 10 15

Phe Trp Phe His Arg Pro Asp Trp Val Leu Phe Phe Ile His Leu Thr
20 25 30

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Leu Phe Gln Asn Ala Phe Gln Met Ala His Phe Val Trp Thr Val Ala
         35                  40                  45

Thr Pro Gly Leu Lys Lys Cys Phe His Met His Ile Gly Leu Ser Ile
     50                  55                  60

Met Lys Val Val Leu Gly Leu Ala Leu Gln Phe Leu Cys Ser Tyr Ile
 65                  70                  75                  80

Thr Phe Pro Leu Tyr Ala Leu Val Thr Gln Met Gly Ser Asn Met Lys
                 85                  90                  95

Arg Ser Ile Phe Asp Glu Gln Thr Ala Lys Ala Leu Thr Asn Trp Arg
            100                 105                 110

Asn Thr Ala Lys Glu Lys Lys Lys Val Arg Asp Thr Asp Met Leu Met
        115                 120                 125

Ala Gln Met Ile Gly Asp Ala Thr Pro Ser Arg Gly Thr Ser Pro Met
    130                 135                 140

Pro Ser Arg Ala Ser Ser Pro Val His Leu Leu His Lys Gly Met Gly
145                 150                 155                 160

Arg Ser Asp Asp Pro Gln Ser Ala Pro Thr Ser Pro Arg Thr Met Glu
                165                 170                 175

Glu Ala Arg Asp Met Tyr Pro Val Val Val Ala His Pro Val His Arg
            180                 185                 190

Leu Asn Pro Ala Asp Arg Arg Arg Ser Val Ser Ser Ser Gly Leu Glu
        195                 200                 205

Ala Asp Ile Pro Ser Ala Asp Phe Ser Phe Asn Gln Gly
    210                 215                 220
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<210> 17
<211> 1496
<212> DNA
<213> Triticum aestivum

<400> 17

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gcacgaggag tacgtttggg gcgccatggc cggcggtgga gggaaggcca agccgctcga   60
gtacacgccg acatggatcg tggcgttggt ctgctccgtc atgatcatca tctccctgct  120
cttcgagcgc ttgctccacc gcctaggcaa gaggctgata aggagccgta agaagccgct  180
gtacgaggcc ctcctgaagg tgaaggagga gctgatgctg ctggggttca tctcgctgct  240
gctcaccgtg ttccagggtc ccatggggaa ggtgtgcgtc agcccgagcg ccatgctcca  300
cctgcagccc tgcagccgcc gccgcacgag acggaccacc tcggcgacgc cgtgttcacc  360
ggtgttccat tgggaaggtt ttggtccgcc cgagcttgtt ggagggccct cctcctccga  420
cgaatactgc ctcaagaagg acaaagtccc attactttca tctgacgcta ttcatcaatt  480
gcacatattt atctttgtgt tggcggtcac ccatttcctt ctcagtgcta ttacagttct  540
tctaggaatg gcacagacga gaaattggcg acattgggag cccaagatcc aagaaaataa  600
tggcagtgca cctcaaatga tcaagcatgt tcaagaattc aaatttattc aagaccactt  660
caaaggtcat agaaaacggt cgaggatatt tggttggatg cgttccttct tcaaacaatt  720
gtatggatcg gtcaccgagg aggactacac aacaatgaga cttggtttca tcatgaaaca  780
ctgtaaggga acaccaaaat tcaactttta tagttacatg atcagggctt tggaggttga  840
ctttaagaaa gtcgttggta ttagttggta cctttgggcc atgttgatga tattcctact  900
attgaatgtt gaagggtggt atgtctacat ttggatcacc ttggttccat tcattatgtt  960
acttatggta ggaagtaaga tggagcacat cataacggaa ttggcttatg aggttgccca 1020
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gaagcacacg gctattcgag gggatttagt agtttctcct tcagataact tcttttggtt 1080
ccaccggcct aaattagttc ttctgttgat ccacatcgtg ctatttcaga atgcatttga 1140
aattgcattt ttcttctggc tcttggtgac atatggtttt aaatcatgca tcatggggaa 1200
accagcatat gttattactc gagttgtcat aagtgtaatc tgccaagtcc tttgtggtta 1260
cagcacccta ccactatacg ccgtcgtctc ccatatgggg aattccttca agaagactat 1320
atttgatgaa aatgtgactg aaggccttgt caactgggct gaaaaggcta ggagaggcac 1380
aagaacccca aataaaatta ctacagatgc aagtagttca ccaattgatg aggcaaatgg 1440
tggcgcggtt caaatgacaa atacacgggc aaactcgtcg gtggagcaag gcaacg     1496
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<210> 18
<211> 450
<212> PRT
<213> Triticum aestivum

<400> 18

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Met Ala Gly Gly Gly Gly Lys Ala Lys Pro Leu Glu Tyr Thr Pro Thr
  1               5                  10                  15

Trp Ile Val Ala Leu Val Cys Ser Val Met Ile Ile Ile Ser Leu Leu
             20                  25                  30

Phe Glu Arg Leu Leu His Arg Leu Gly Lys Arg Leu Ile Arg Ser Arg
         35                  40                  45

Lys Lys Pro Leu Tyr Glu Ala Leu Leu Lys Val Lys Glu Glu Leu Met
     50                  55                  60

Leu Leu Gly Phe Ile Ser Leu Leu Leu Thr Val Phe Gln Gly Pro Met
 65                  70                  75                  80

Gly Lys Val Cys Val Ser Pro Ser Ala Met Leu His Leu Gln Pro Cys
                 85                  90                  95

Ser Arg Arg Arg Thr Arg Arg Thr Thr Ser Ala Thr Pro Cys Ser Pro
            100                 105                 110

Val Phe His Trp Glu Gly Phe Gly Pro Pro Glu Leu Val Gly Gly Pro
        115                 120                 125

Ser Ser Ser Asp Glu Tyr Cys Leu Lys Lys Asp Lys Val Pro Leu Leu
    130                 135                 140

Ser Ser Asp Ala Ile His Gln Leu His Ile Phe Ile Phe Val Leu Ala
145                 150                 155                 160

Val Thr His Phe Leu Leu Ser Ala Ile Thr Val Leu Leu Gly Met Ala
                165                 170                 175

Gln Thr Arg Asn Trp Arg His Trp Glu Pro Lys Ile Gln Glu Asn Asn
            180                 185                 190

Gly Ser Ala Pro Gln Met Ile Lys His Val Gln Glu Phe Lys Phe Ile
        195                 200                 205

Gln Asp His Phe Lys Gly His Arg Lys Arg Ser Arg Ile Phe Gly Trp
    210                 215                 220

Met Arg Ser Phe Phe Lys Gln Leu Tyr Gly Ser Val Thr Glu Glu Asp
225                 230                 235                 240
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```
Tyr Thr Thr Met Arg Leu Gly Phe Ile Met Lys His Cys Lys Gly Thr
                245                 250                 255

Pro Lys Phe Asn Phe Tyr Ser Tyr Met Ile Arg Ala Leu Glu Val Asp
            260                 265                 270

Phe Lys Lys Val Val Gly Ile Ser Trp Tyr Leu Trp Ala Met Leu Met
        275                 280                 285

Ile Phe Leu Leu Leu Asn Val Glu Gly Trp Tyr Val Tyr Ile Trp Ile
    290                 295                 300

Thr Leu Val Pro Phe Ile Met Leu Leu Met Val Gly Ser Lys Met Glu
305                 310                 315                 320

His Ile Ile Thr Glu Leu Ala Tyr Glu Val Ala Gln Lys His Thr Ala
                325                 330                 335

Ile Arg Gly Asp Leu Val Val Ser Pro Ser Asp Asn Phe Phe Trp Phe
            340                 345                 350

His Arg Pro Lys Leu Val Leu Leu Leu Ile His Ile Val Leu Phe Gln
        355                 360                 365

Asn Ala Phe Glu Ile Ala Phe Phe Phe Trp Leu Leu Val Thr Tyr Gly
    370                 375                 380

Phe Lys Ser Cys Ile Met Gly Lys Pro Ala Tyr Val Ile Thr Arg Val
385                 390                 395                 400

Val Ile Ser Val Ile Cys Gln Val Leu Cys Gly Tyr Ser Thr Leu Pro
                405                 410                 415

Leu Tyr Ala Val Val Ser His Met Gly Asn Ser Phe Lys Lys Thr Ile
            420                 425                 430

Phe Asp Glu Asn Val Thr Glu Gly Leu Val Asn Trp Ala Glu Lys Ala
        435                 440                 445

Arg Arg
    450
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<210> 19
<211> 474
<212> DNA
<213> Triticum aestivum

<220>
<221> unsure
<222> (292)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (366)
<223> n = A, C, G, or T

<220>
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<222> (372)

<223> n = A, C, G, or T

<220>
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<222> (383)
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<220>
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<222> (410)
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<220>
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<222> (418)
<223> n = A, C, G, or T

<220>
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<222> (428)
<223> n = A, C, G, or T

<220>
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<222> (441)
<223> n = A, C, G, or T

<220>
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<222> (454)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (468)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (474)
<223> n = A, C, G, or T

<400> 19
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tattggcatc atcgttcagg tgctctgcag ctacagcacc ctgccgctgt acgccattgt 120
cacccacatg ggcggcgaca tcaagctgca ggcgttcggc gagcacgtac acgtgtccgt 180
gcacagctgg gcgacggacg tgaagaagaa ggcgacgtcg ctgccggccc atccgcaccc 240
gcaccagcac ccgcactcgc aactccggat tccgtttctc aacaatgaag cngcacagcg 300
gaccttgacc ttgcaaccga ggaagctgca gccgcggcga agggcgacgg agcaacgcgc 360
tggaantcca antctcccac cgnaccgccg gaacaacggg ccgacactan aggaattngt 420
gacacaangg gggagacatc ntctcgaacg ccanttccct acggctanat cccn 474

<210> 20
<211> 133
<212> PRT
<213> Triticum aestivum

<220>
<221> UNSURE
<222> (122)

<223> Xaa = ANY AMINO ACID

<220>
<221> UNSURE
<222> (124)
<223> Xaa = ANY AMINO ACID

<220>
<221> UNSURE
<222> (128)
<223> Xaa = ANY AMINO ACID

<400> 20

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Thr Tyr Gly Phe Asp Ser Cys Ile Met Glu Asn Arg Ser Tyr Ala Ile
  1               5                  10                  15

Pro Arg Leu Ala Ile Gly Ile Ile Val Gln Val Leu Cys Ser Tyr Ser
             20                  25                  30

Thr Leu Pro Leu Tyr Ala Ile Val Thr His Met Gly Gly Asp Ile Lys
         35                  40                  45

Leu Gln Ala Phe Gly Glu His Val His Val Ser Val His Ser Trp Ala
     50                  55                  60

Thr Asp Val Lys Lys Lys Ala Thr Ser Leu Pro Ala His Pro His Pro
 65                  70                  75                  80

His Gln His Pro His Ser Gln Leu Arg Ile Pro Phe Leu Asn Asn Glu
                 85                  90                  95

Ala Ala Gln Arg Thr Leu Thr Leu Gln Pro Arg Lys Leu Gln Pro Arg
            100                 105                 110

Arg Arg Ala Thr Glu Gln Arg Ala Gly Xaa Pro Xaa Leu Pro Pro Xaa
        115                 120                 125

Arg Arg Asn Asn Gly
    130
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<210> 21
<211> 548
<212> DNA
<213> Oryza sativa

<220>
<221> unsure
<222> (516)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (526)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (545)
<223> n = A, C, G, or T

<400> 21
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gaagcagatt ttaagaaagt ggttggtata agctggtact tgtggatatt cgttatgata 120
ttcctgctgc tgaatgttaa tggttggcac acatactttt ggatctcctt cgttcccctt 180
ctacttttgc tggccgttgg caccaagcta gaacatgtca taacccaact agcccatgag 240
gttgccgaga agcactctgc aattgagggc gacttggttg tgaatccatc agacgagcac 300
ttttggtttg gacggccgaa ggtgatccta tacctgatcc attttatcct cttccaaaac 360
gcgttcgaga tcgcgttctt cttctggatt ctgaccacct acggtttcaa ctcctgcatc 420
aagggaccaa cgtccctttt atcctgacaa ggcttatcat cgggggcatc gttcaaatcc 480
tctgcaacta caagtacctt gcctaatata tgcaantgtc acacanatgg ggctcccttt 540
ttaanaaa 548

<210> 22
<211> 156
<212> PRT
<213> Oryza sativa

<400> 22
Tyr Arg Tyr Met Val Arg Ala Leu Glu Ala Asp Phe Lys Lys Val Val
1 5 10 15

Gly Ile Ser Trp Tyr Leu Trp Ile Phe Val Met Ile Phe Leu Leu Leu
20 25 30

Asn Val Asn Gly Trp His Thr Tyr Phe Trp Ile Ser Phe Val Pro Leu
35 40 45

Leu Leu Leu Leu Ala Val Gly Thr Lys Leu Glu His Val Ile Thr Gln
50 55 60

Leu Ala His Glu Val Ala Glu Lys His Ser Ala Ile Glu Gly Asp Leu
65 70 75 80

Val Val Asn Pro Ser Asp Glu His Phe Trp Phe Gly Arg Pro Lys Val
85 90 95

Ile Leu Tyr Leu Ile His Phe Ile Leu Phe Gln Asn Ala Phe Glu Ile
100 105 110

Ala Phe Phe Phe Trp Ile Leu Thr Thr Tyr Gly Phe Asn Ser Cys Ile
115 120 125

Lys Gly Thr Asn Val Pro Phe Ile Leu Thr Arg Leu Ile Ile Gly Gly
130 135 140

Ile Val Gln Ile Leu Cys Asn Tyr Lys Tyr Leu Ala
145 150 155

<210> 23
<211> 738
<212> DNA
<213> Oryza sativa

<220>
<221> unsure
<222> (459)
<223> n = A, C, G, or T

<220>

<221> unsure
<222> (600)
<223> n = A, C, G, or T

<220>
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<222> (606)..(607)
<223> n = A, C, G, or T

<220>
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<222> (658)
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<220>
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<222> (661)
<223> n = A, C, G, or T

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<222> (672)
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<220>
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<222> (675)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (679)
<223> n = A, C, G, or T

<220>
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<222> (683)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (696)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (707)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (721)
<223> n = A, C, G, or T

<400> 23
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aagctggagc tcataagcac taggctggca caagaggcag cagactgccc agatgaagca 120
acaggaaacc cctggacaaa gccatgcaag gagcacttct ggttcagcaa gcctaggatt 180
gtcctccatt tgatccactt catcctgttc cagaactcct ttgagatggg ttttttcttc 240
tgggttctgg caacatatgg gtttgattca tgcatcatgg agaacaagat ttatgccctc 300

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cccagacttg ctattggaat catcgtccag gtgctctgca gctacagcac gctgccgcta 360
tacgccatcg ttacccacat gggcggggac atcaagctgc aggcgttcgg cgagacggtg 420
cacgtgtcgg tgcacagctg ggcgacggac gtgaggaana agaaggcggc gccgccgccg 480
cactcccacc tccgcatccc cttcctcatg aagcgacgcc acagcacccg cggcgccgac 540
gacgccgcgg acgacgccgg cggcgacgtc gaccaccaac accaccatca cgggcaccan 600
catcanngtc accaacaaca acgaggggag ctccgtcggg ggcgggcggt ggccggtnct 660
nggagggaga tngtngccna acnacgtcct ggcggncgag gacgggncac ccggccgggc 720
nccgccgcct tttttttt                                               738
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<210> 24
<211> 155
<212> PRT
<213> Oryza sativa

<220>
<221> UNSURE
<222> (153)
<223> Xaa = ANY AMINO ACID

<400> 24

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Leu Thr Thr Tyr Phe Trp Leu Ser Phe Leu Pro Leu Ile Leu Leu Leu
  1               5                  10                  15

Ile Val Gly Thr Lys Leu Glu Leu Ile Ser Thr Arg Leu Ala Gln Glu
             20                  25                  30

Ala Ala Asp Cys Pro Asp Glu Ala Thr Gly Asn Pro Trp Thr Lys Pro
         35                  40                  45

Cys Lys Glu His Phe Trp Phe Ser Lys Pro Arg Ile Val Leu His Leu
     50                  55                  60

Ile His Phe Ile Leu Phe Gln Asn Ser Phe Glu Met Gly Phe Phe Phe
 65                  70                  75                  80

Trp Val Leu Ala Thr Tyr Gly Phe Asp Ser Cys Ile Met Glu Asn Lys
                 85                  90                  95

Ile Tyr Ala Leu Pro Arg Leu Ala Ile Gly Ile Ile Val Gln Val Leu
            100                 105                 110

Cys Ser Tyr Ser Thr Leu Pro Leu Tyr Ala Ile Val Thr His Met Gly
        115                 120                 125

Gly Asp Ile Lys Leu Gln Ala Phe Gly Glu Thr Val His Val Ser Val
    130                 135                 140

His Ser Trp Ala Thr Asp Val Arg Xaa Lys Lys
145                 150                 155
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<210> 25
<211> 574
<212> DNA
<213> Oryza sativa

<220>
<221> unsure
<222> (17)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (353)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (437)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (455)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (536)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (555)
<223> n = A, C, G, or T

<220>
<221> unsure
<222> (557)
<223> n = A, C, G, or T

<400> 25
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ttccttcctg cttagcgtct tccaaaaatt tatcaatcac atttgcatcc cggagagtgc 120
tgcacatctc atgcttccat gcattactag agagacgtcc gagaccacag aagatgcttc 180
caaactttgc aagcgaaagg gtgaagttcc tatgctatct gaagaggctt tgcatcagct 240
gcacatcttt atctttgtcc ttggtattgt ccatgttgta ttttgtgtta caacattgtt 300
acttggtgga gccaagatga aaaaatggga agaaatggga gaaagaaatt cancaaggaa 360
gaaccaagga gcgaccaaag aggccaggct ggatgaaatt cattgttgta agatgtgcca 420
tctcattctt gaagcanttt tatgattctg ttggnaaacc tggattatca agtacttaag 480
atcagctttt ggtcaagagg gcactaccaa accgtcctgg attttgattt ccacangtac 540
aagggctccg tgccncntga gcatgacttt taag 574

<210> 26
<211> 111
<212> PRT
<213> Oryza sativa

<220>
<221> UNSURE
<222> (6)
<223> Xaa = ANY AMINO ACID

<400> 26
Cys Leu Pro Tyr Asp Xaa Pro Asp Tyr Ala His Met Ala Met Glu Ala
1 5 10 15

Ser Gly Phe Ile Ser Phe Leu Leu Ser Val Phe Gln Lys Phe Ile Asn
20 25 30

His Ile Cys Ile Pro Glu Ser Ala Ala His Leu Met Leu Pro Cys Ile

```
         35                  40                  45

Thr Arg Glu Thr Ser Glu Thr Thr Glu Asp Ala Ser Lys Leu Cys Lys
     50                  55                  60

Arg Lys Gly Glu Val Pro Met Leu Ser Glu Glu Ala Leu His Gln Leu
 65                  70                  75                  80

His Ile Phe Ile Phe Val Leu Gly Ile Val His Val Val Phe Cys Val
                 85                  90                  95

Thr Thr Leu Leu Leu Gly Gly Ala Lys Met Lys Lys Trp Glu Glu
            100                 105                 110
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<210> 27
<211> 960
<212> DNA
<213> Glycine max

<400> 27

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gcacgagggt atatgatagc aactcaatta agaagcaagc atgggaggaa aaaccttaca  60
ggaaacacct acatgggctg tggccgttgt ttgcttcgtt ttgctctcca tatctatctt 120
gatcgagcac atcctgcatc tcattggaaa gtggttgaag aagaagcaca agagagctct 180
atgcgaggca ctcgaaaaga tcaaatcaga gcttatgcta ttggggttca tatcgttgct 240
cctaacggta ggacaaggtc taatatcgag gatatgtata tcagaaaagg ttgcggggac 300
atttcacccc tgtccaaaaa aatactataa gaagaaggaa gagtcagagc accgaaccaa 360
taatggtcgg agattactag cggcttttct cgattccgat aaccaaaatc accgtcgtat 420
tttggcggcg ggaggtggtg acaactgtcc cccgggtaaa gtcccgtttg tctcatccga 480
gggtattcat caactccata tatttatctt cgtgctggct gtctttcatg tcctttactg 540
catactcact ctagctctgg gtagagcaaa gatgagaagg tggaaacgat gggaagagga 600
aaccaagaca gcacagtacc aattttcaca cgatcctgaa cgatttagat ttgcgagaga 660
aacatcattt gggagaagac acctgagttt ctgggcccaa aatcctgtcc tcctctggat 720
tgtttgtttc ttcaggcagt ttgtacggtc agttcctaaa gtggattact tgacactgag 780
gcatggattt atgatggcac atttggggcc tcatagtcac ccgaaattcg actttcggca 840
atatatcaaa agatctttgg aagaggactt caaagtggtc gttgaaatca ggtttttcgc 900
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<210> 28
<211> 287
<212> PRT
<213> Glycine max

<400> 28

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Met Gly Gly Lys Thr Leu Gln Glu Thr Pro Thr Trp Ala Val Ala Val
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Val Cys Phe Val Leu Leu Ser Ile Ser Ile Leu Ile Glu His Ile Leu
             20                  25                  30

His Leu Ile Gly Lys Trp Leu Lys Lys Lys His Lys Arg Ala Leu Cys
         35                  40                  45

Glu Ala Leu Glu Lys Ile Lys Ser Glu Leu Met Leu Leu Gly Phe Ile
     50                  55                  60

Ser Leu Leu Leu Thr Val Gly Gln Gly Leu Ile Ser Arg Ile Cys Ile
 65                  70                  75                  80

Ser Glu Lys Val Ala Gly Thr Phe His Pro Cys Pro Lys Lys Tyr Tyr
                 85                  90                  95
```

```
Lys Lys Lys Glu Glu Ser Glu His Arg Thr Asn Asn Gly Arg Arg Leu
            100                 105                 110

Leu Ala Ala Phe Leu Asp Ser Asp Asn Gln Asn His Arg Arg Ile Leu
        115                 120                 125

Ala Ala Gly Gly Gly Asp Asn Cys Pro Pro Gly Lys Val Pro Phe Val
    130                 135                 140

Ser Ser Glu Gly Ile His Gln Leu His Ile Phe Ile Phe Val Leu Ala
145                 150                 155                 160

Val Phe His Val Leu Tyr Cys Ile Leu Thr Leu Ala Leu Gly Arg Ala
                165                 170                 175

Lys Met Arg Arg Trp Lys Arg Trp Glu Glu Glu Thr Lys Thr Ala Gln
            180                 185                 190

Tyr Gln Phe Ser His Asp Pro Glu Arg Phe Arg Phe Ala Arg Glu Thr
        195                 200                 205

Ser Phe Gly Arg Arg His Leu Ser Phe Trp Ala Gln Asn Pro Val Leu
    210                 215                 220

Leu Trp Ile Val Cys Phe Phe Arg Gln Phe Val Arg Ser Val Pro Lys
225                 230                 235                 240

Val Asp Tyr Leu Thr Leu Arg His Gly Phe Met Met Ala His Leu Gly
                245                 250                 255

Pro His Ser His Pro Lys Phe Asp Phe Arg Gln Tyr Ile Lys Arg Ser
            260                 265                 270

Leu Glu Glu Asp Phe Lys Val Val Val Glu Ile Arg Phe Phe Ala
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<210> 29
<211> 476
<212> DNA
<213> Glycine max

<220>
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<222> (248)..(249)
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cagtagccct gaagaactgg catcacactg ctaaaaagca catcaaacac aacaaggatt 120
ctacttcaaa tacaccattc tcaagcaggc caggaacccc gacacatggc atgtctccag 180
ttcacttgct tcacaagcac cctagacaca gtgacagtcc aantatttct cccaagggca 240
tacaattnnc aaanatgaac aatggggttt ttaaagggat acattccccc caggcaacaa 300
cgcaaggaat naatgttctt attaatgaan agaccatgca nattcaaatn caagattcaa 360
naacaacggg caacttcaac agcaagatnc ctcctaatgg gaccnatccc tatccgaatc 420
aacaatgaat ccacattctt aacctnaatt cattttggaa ggggacacac acttgt 476

<210> 30
<211> 77
<212> PRT
<213> Glycine max

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<222> (74)
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<400> 30
Ala Leu Val Thr Gln Met Gly Ser Thr Met Lys Val Thr Ile Phe Asn
1 5 10 15

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Glu Asn Val Ala Val Ala Leu Lys Asn Trp His His Thr Ala Lys Lys
            20                  25                  30

His Ile Lys His Asn Lys Asp Ser Thr Ser Asn Thr Pro Phe Ser Ser
        35                  40                  45

Arg Pro Gly Thr Pro Thr His Gly Met Ser Pro Val His Leu Leu His
    50                  55                  60

Lys His Pro Arg His Ser Asp Ser Pro Xaa Ile Ser Pro
65                  70                  75
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<210> 31
<211> 1711
<212> DNA
<213> Triticum aestivum

<400> 31

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aagctcggcc attggttcca caagcggcac aagaacgcgc tggcggaggc gctggagaag  180
atcaaagcgg agctgatgct ggtggggttc atctcgctgc tgctcgccgt gacgcaggac  240
ccaatctccg ggatatgcat ctccgagaag gccgccagca tcatgcggcc ctgcagcctg  300
ccccctggtt ccgtcaagag caagtacaaa gactactact gcgccaaaaa gggcaaggtg  360
tcgctaatgt ccacgggcag cttgcaccag ctccacatat tcatcttcgt gctcgccgtc  420
ttccatgtca cctacagcgt catcatcatg gctctaagcc gtctcaaaat gaggacatgg  480
aagaaatggg agacagagac cgcctccttg gaataccagt tcgcaaatga tcctgcgcgg  540
ttccgcttca cgcaccagac gtcgttcgtg aagcggcacc tgggcctctc cagcaccccc  600
ggcatcagat gggtggtggc cttcttcagg cagttcttca ggtcggtcac caaggtggac  660
tacctcaccc tgagggcagg cttcatcaac gcgcatttgt cgcataacag caagttcgac  720
ttccacaagt acatcaagag gtccatggag gacgacttca aagtcgtcgt tggcatcagc  780
ctcccgctgt ggtgtgtggc gatcctcacc ctcttccttg atattgacgg gatcggcacg  840
ctcacctgga tttctttcat ccctctcgtc atcctcttgt gtgttggaac caagctggag  900
atgatcatca tggagatggc cctggagatc caggaccggg cgagcgtcat caaggggcg   960
cccgtggttg agcccagcaa caagttcttc tggttccacc gccccgactg ggtcctcttc 1020
ttcatacacc tgacgctgtt ccagaatgcg tttcagatgg cacatttcgt ctggacagtg 1080
gccacgcccg gcttgaagaa atgcttccat atgcacatcg gtctgagcat catgaaggtc 1140
gtgctggggc tggctcttca gttcctctgc agctatatca ccttcccccc ctacgcgctc 1200
gtcacacaga tgggatcgaa catgaagagg tccatcttcg acgagcagac ggccaaggcg 1260
ctgaccaact ggcggaacac ggccaaggag aagaagaagg tccgagacac ggacatgctg 1320
atggcgcaga tgatcggcga cgcgacgccc agccgaggca cgtcgccgat gcctagccgg 1380
gcttcgtcac cggtgcacct gcttcacaag ggcatgggac ggtccgacga tccccagagc 1440
gcgccgacct cgccaaggac catggaggag gctagggaca tgtacccggt tgtggtggcg 1500
catcccgtgc acagactaaa tcctgctgac aggcggaggt cggtctcttc gtcggcactc 1560
gatgccgaca tccccagcgc agatttttcc ttcagccagg gatgagacaa gtttatgtat 1620
tgatgttagt ccaatgtata gccaacatag gatgtcatga ttcgtacaat aagaaataga 1680
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<210> 32
<211> 534
<212> PRT
<213> Triticum aestivum

<400> 32

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Pro Ser Trp Ala Val Ala Leu Val Phe Ala Val Met Ile Ile Val Ser
            20                  25                  30
```

Val Leu Leu Glu His Ala Leu His Lys Leu Gly His Trp Phe His Lys
35 40 45

Arg His Lys Asn Ala Leu Ala Glu Ala Leu Glu Lys Ile Lys Ala Glu
50 55 60

Leu Met Leu Val Gly Phe Ile Ser Leu Leu Leu Ala Val Thr Gln Asp
65 70 75 80

Pro Ile Ser Gly Ile Cys Ile Ser Glu Lys Ala Ala Ser Ile Met Arg
85 90 95

Pro Cys Ser Leu Pro Pro Gly Ser Val Lys Ser Lys Tyr Lys Asp Tyr
100 105 110

Tyr Cys Ala Lys Lys Gly Lys Val Ser Leu Met Ser Thr Gly Ser Leu
115 120 125

His Gln Leu His Ile Phe Ile Phe Val Leu Ala Val Phe His Val Thr
130 135 140

Tyr Ser Val Ile Ile Met Ala Leu Ser Arg Leu Lys Met Arg Thr Trp
145 150 155 160

Lys Lys Trp Glu Thr Glu Thr Ala Ser Leu Glu Tyr Gln Phe Ala Asn
165 170 175

Asp Pro Ala Arg Phe Arg Phe Thr His Gln Thr Ser Phe Val Lys Arg
180 185 190

His Leu Gly Leu Ser Ser Thr Pro Gly Ile Arg Trp Val Val Ala Phe
195 200 205

Phe Arg Gln Phe Phe Arg Ser Val Thr Lys Val Asp Tyr Leu Thr Leu
210 215 220

Arg Ala Gly Phe Ile Asn Ala His Leu Ser His Asn Ser Lys Phe Asp
225 230 235 240

Phe His Lys Tyr Ile Lys Arg Ser Met Glu Asp Asp Phe Lys Val Val
245 250 255

Val Gly Ile Ser Leu Pro Leu Trp Cys Val Ala Ile Leu Thr Leu Phe
260 265 270

Leu Asp Ile Asp Gly Ile Gly Thr Leu Thr Trp Ile Ser Phe Ile Pro
275 280 285

Leu Val Ile Leu Leu Cys Val Gly Thr Lys Leu Glu Met Ile Ile Met
290 295 300

Glu Met Ala Leu Glu Ile Gln Asp Arg Ala Ser Val Ile Lys Gly Ala
305 310 315 320

Pro Val Val Glu Pro Ser Asn Lys Phe Phe Trp Phe His Arg Pro Asp
325 330 335

Trp Val Leu Phe Phe Ile His Leu Thr Leu Phe Gln Asn Ala Phe Gln
340 345 350

```
Met Ala His Phe Val Trp Thr Val Ala Thr Pro Gly Leu Lys Lys Cys
        355                 360                 365

Phe His Met His Ile Gly Leu Ser Ile Met Lys Val Val Leu Gly Leu
    370                 375                 380

Ala Leu Gln Phe Leu Cys Ser Tyr Ile Thr Phe Pro Leu Tyr Ala Leu
385                 390                 395                 400

Val Thr Gln Met Gly Ser Asn Met Lys Arg Ser Ile Phe Asp Glu Gln
                405                 410                 415

Thr Ala Lys Ala Leu Thr Asn Trp Arg Asn Thr Ala Lys Glu Lys Lys
            420                 425                 430

Lys Val Arg Asp Thr Asp Met Leu Met Ala Gln Met Ile Gly Asp Ala
        435                 440                 445

Thr Pro Ser Arg Gly Thr Ser Pro Met Pro Ser Arg Ala Ser Ser Pro
    450                 455                 460

Val His Leu Leu His Lys Gly Met Gly Arg Ser Asp Asp Pro Gln Ser
465                 470                 475                 480

Ala Pro Thr Ser Pro Arg Thr Met Glu Glu Ala Arg Asp Met Tyr Pro
                485                 490                 495

Val Val Val Ala His Pro Val His Arg Leu Asn Pro Ala Asp Arg Arg
            500                 505                 510

Arg Ser Val Ser Ser Ser Ala Leu Asp Ala Asp Ile Pro Ser Ala Asp
        515                 520                 525

Phe Ser Phe Ser Gln Gly
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<210> 33
<211> 482
<212> DNA
<213> Triticum aestivum

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tgtgcgtgtg tctcgttgat cgatcgaggt ggtcgtttgc tcggcaccta aaaagangtt 180
gagcggcggg tcatggcggg gccggcggga gggcgggaac tgccggacac cccgacgtgg 240
gcggtggggc tcgtctgcgc cgttatgata ctcgtctccn tcgccatggg gcacgccctc 300
cacaacctcg ggcactggtt ccacaagcgg cacaanaang gcatngcggn ggcgctggag 360
aaaattaagg nggggctcan gcttggtggg gcttcatanc cctgntcctc anccgtgggg 420
caggaaccca tntccaagat atgcaatctc cntggagggg cngcancaaa gaatgntccc 480
cn 482

<210> 34
<211> 66
<212> PRT
<213> Triticum aestivum

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<222> (30)
<223> Xaa = ANY AMINO ACID

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<222> (48)..(49)
<223> Xaa = ANY AMINO ACID

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<223> Xaa = ANY AMINO ACID

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<222> (63)
<223> Xaa = ANY AMINO ACID

<400> 34
Met Ala Gly Pro Ala Gly Gly Arg Glu Leu Pro Asp Thr Pro Thr Trp

1 5 10 15

Ala Val Gly Leu Val Cys Ala Val Met Ile Leu Val Ser Xaa Ala Met
20 25 30

Gly His Ala Leu His Asn Leu Gly His Trp Phe His Lys Arg His Xaa
35 40 45

Xaa Gly Xaa Ala Xaa Ala Leu Glu Lys Ile Lys Xaa Gly Leu Xaa Leu
50 55 60

Gly Gly
65

<210> 35
<211> 462
<212> DNA
<213> Triticum aestivum

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<222> (19)
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<222> (328)
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<222> (382)
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<222> (394)
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<222> (453)
<223> n = A, C, G, or T

<400> 35
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cgtgaaaaga ggccaggctg gatgaaacca tctgctgtaa gatggattat tgcattcttc 120
aagcagtttt ataattctgt cggtaaacca gattatcaag tactcagatc agcttttgtt 180
ctgcggcact acccaaatcg cccagacttt gatttccaca agtacatggt tcgtgccttg 240
aagcatgatt tcaaagaagt agttggaatc agctggtacc tatggctttt cgttatcgtc 300
ttcctgctgc tgaatataaa tgggtggnac acatacttct ggctgtcttt cttgcccttg 360
attcctctgc ttattgttgg gnactaagct gggnggtaca tcagcactcg attgggctca 420
aagaaagcaa cggatttgtt ctggatgaaa gcnatcaagg ga 462

<210> 36
<211> 127
<212> PRT
<213> Triticum aestivum

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<223> Xaa = ANY AMINO ACID

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<222> (110)
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<400> 36
Ala Lys Met Arg Thr Trp Xaa Lys Trp Glu Lys Glu Ile Gln Gln Gly
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Arg Leu Asn Glu Arg Glu Lys Arg Pro Gly Trp Met Lys Pro Ser Ala
20 25 30

Val Arg Trp Ile Ile Ala Phe Phe Lys Gln Phe Tyr Asn Ser Val Gly
35 40 45

Lys Pro Asp Tyr Gln Val Leu Arg Ser Ala Phe Val Leu Arg His Tyr
50 55 60

Pro Asn Arg Pro Asp Phe Asp Phe His Lys Tyr Met Val Arg Ala Leu
65 70 75 80

Lys His Asp Phe Lys Glu Val Val Gly Ile Ser Trp Tyr Leu Trp Leu
85 90 95

Phe Val Ile Val Phe Leu Leu Leu Asn Ile Asn Gly Trp Xaa Thr Tyr
100 105 110

Phe Trp Leu Ser Phe Leu Pro Leu Ile Pro Leu Leu Ile Val Gly
115 120 125

<210> 37
<211> 1666
<212> DNA
<213> Triticum aestivum

<400> 37
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cttcgagcgc ttgctccacc gcctaggcaa gaggctgata aggagccgta agaagccgct 180
gtacgaggcc ctcctgaagg tgaaggagga gctgatgctg ctggggttca tctcgctgct 240
gctcaccgtg ttccagggtc ccatggggaa ggtgtgcgtc agcccgagcg ccatgctcca 300
cctgcagccc tgcaagccgc cgccgcacga gacggaccac ctcggcgacg ccgtgttcac 360
cggcgtgctg ggtggggcga ggcgcctcct ggctggagga gcctcctcct ccgacaaata 420
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atttatcttt gtgttggcgg tcacccattt ccttctcagt gctattacag ttcttctagg 540
aatggcacag acgagaaatt ggcgacattg ggagaccaag atccaagaaa ataatggcag 600
tgcacctcaa atgatcaagc atgttcaaga attcaaattt attcaagacc acttcaaagg 660
tcatagaaaa cggtcgagga tatttggttg gatgcgttcc ttcttcaaac aattgtatgg 720
atcggtcacc gaggaggact acacaacaat gagacttggt ttcatcatga aacactgtaa 780
gggaacacca aaattcaact tttatagtta catgatcagg gctttggagg ttgactttaa 840
gaaagtcgtt ggtattagtt ggtacctttg ggccatgttg atgatattcc tactattgaa 900
tgttgaaggg tggtatgtct acatttggat caccttggtt ccattcatta tgttacttat 960
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cacggctatt cgaggggatt tagtagtttc tccttcagat aacttctttt ggttccaccg 1080
gcctaaatta gttcttctgt tgatccacat cgtgctattt cagaatgcat ttgaaattgc 1140
atttttcttc tggctcttgg tgacatatgg ttttaaatca tgcatcatgg ggaaaccagc 1200

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atatgttatt actcgagttg tcataagtgt aatctgccaa gtcctttgtg gttacagcac 1260
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tgaaaatgtg actgaaggcc ttgtcaactg ggctgaaaag gctaggagag gcacaagaac 1380
cccaaataaa attactacag atgcaagtag ttcaccaatt gatgaggcaa atggtggcgc 1440
ggttcaaatg acaaatacac gggcaaactc gtcggtggag caaggcaccg ctaggttgat 1500
ataatcatgt acattagttg ctaatacaaa gggtccatgg gcaacaattt tggcaagtgg 1560
acagatttat tttttgaggg catcacatat ctttaataat gcacgggaat catgtgttcc 1620
cgtttttaaa ccaaaaagag aaataacccc cctctaaaaa gaaaca                 1666
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<210> 38
<211> 492
<212> PRT
<213> Triticum aestivum

<400> 38

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Met Ala Gly Gly Gly Gly Lys Ala Lys Pro Leu Glu Tyr Thr Pro Thr
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Trp Ile Val Ala Leu Val Cys Ser Val Met Ile Ile Ile Ser Leu Leu
             20                  25                  30

Phe Glu Arg Leu Leu His Arg Leu Gly Lys Arg Leu Ile Arg Ser Arg
         35                  40                  45

Lys Lys Pro Leu Tyr Glu Ala Leu Leu Lys Val Lys Glu Glu Leu Met
     50                  55                  60

Leu Leu Gly Phe Ile Ser Leu Leu Leu Thr Val Phe Gln Gly Pro Met
 65                  70                  75                  80

Gly Lys Val Cys Val Ser Pro Ser Ala Met Leu His Leu Gln Pro Cys
                 85                  90                  95

Lys Pro Pro Pro His Glu Thr Asp His Leu Gly Asp Ala Val Phe Thr
            100                 105                 110

Gly Val Leu Gly Gly Ala Arg Arg Leu Leu Ala Gly Gly Ala Ser Ser
        115                 120                 125

Ser Asp Lys Tyr Cys Leu Lys Lys Asp Lys Val Pro Leu Leu Ser Ser
    130                 135                 140

Asp Ala Ile His Gln Leu His Ile Phe Ile Phe Val Leu Ala Val Thr
145                 150                 155                 160

His Phe Leu Leu Ser Ala Ile Thr Val Leu Leu Gly Met Ala Gln Thr
                165                 170                 175

Arg Asn Trp Arg His Trp Glu Thr Lys Ile Gln Glu Asn Asn Gly Ser
            180                 185                 190

Ala Pro Gln Met Ile Lys His Val Gln Glu Phe Lys Phe Ile Gln Asp
        195                 200                 205

His Phe Lys Gly His Arg Lys Arg Ser Arg Ile Phe Gly Trp Met Arg
    210                 215                 220

Ser Phe Phe Lys Gln Leu Tyr Gly Ser Val Thr Glu Glu Asp Tyr Thr
225                 230                 235                 240
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Thr Met Arg Leu Gly Phe Ile Met Lys His Cys Lys Gly Thr Pro Lys
                245                 250                 255

Phe Asn Phe Tyr Ser Tyr Met Ile Arg Ala Leu Glu Val Asp Phe Lys
            260                 265                 270

Lys Val Val Gly Ile Ser Trp Tyr Leu Trp Ala Met Leu Met Ile Phe
        275                 280                 285

Leu Leu Leu Asn Val Glu Gly Trp Tyr Val Tyr Ile Trp Ile Thr Leu
    290                 295                 300

Val Pro Phe Ile Met Leu Leu Met Val Gly Ser Lys Met Glu His Ile
305                 310                 315                 320

Ile Thr Glu Leu Ala Tyr Glu Val Ala Gln Lys His Thr Ala Ile Arg
                325                 330                 335

Gly Asp Leu Val Val Ser Pro Ser Asp Asn Phe Phe Trp Phe His Arg
            340                 345                 350

Pro Lys Leu Val Leu Leu Leu Ile His Ile Val Leu Phe Gln Asn Ala
        355                 360                 365

Phe Glu Ile Ala Phe Phe Phe Trp Leu Leu Val Thr Tyr Gly Phe Lys
    370                 375                 380

Ser Cys Ile Met Gly Lys Pro Ala Tyr Val Ile Thr Arg Val Val Ile
385                 390                 395                 400

Ser Val Ile Cys Gln Val Leu Cys Gly Tyr Ser Thr Leu Pro Leu Tyr
                405                 410                 415

Ala Val Val Ser His Met Gly Asn Ser Phe Lys Lys Thr Ile Phe Asp
            420                 425                 430

Glu Asn Val Thr Glu Gly Leu Val Asn Trp Ala Glu Lys Ala Arg Arg
        435                 440                 445

Gly Thr Arg Thr Pro Asn Lys Ile Thr Thr Asp Ala Ser Ser Ser Pro
    450                 455                 460

Ile Asp Glu Ala Asn Gly Gly Ala Val Gln Met Thr Asn Thr Arg Ala
465                 470                 475                 480

Asn Ser Ser Val Glu Gln Gly Thr Ala Arg Leu Ile
                485                 490
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<210> 39
<211> 533
<212> PRT
<213> Hordeum vulgare

<400> 39

```
Met Ser Asp Lys Lys Gly Val Pro Ala Arg Glu Leu Pro Glu Thr Pro
  1               5                  10                  15

Ser Trp Ala Val Ala Val Val Phe Ala Ala Met Val Leu Val Ser Val
             20                  25                  30
```

Leu Met Glu His Gly Leu His Lys Leu Gly His Trp Phe Gln His Arg
35 40 45

His Lys Lys Ala Leu Trp Glu Ala Leu Glu Lys Met Lys Ala Glu Leu
50 55 60

Met Leu Val Gly Phe Ile Ser Leu Leu Leu Ile Val Thr Gln Asp Pro
65 70 75 80

Ile Ile Ala Lys Ile Cys Ile Ser Glu Asp Ala Ala Asp Val Met Trp
85 90 95

Pro Cys Lys Arg Gly Thr Glu Gly Arg Lys Pro Ser Lys Tyr Val Asp
100 105 110

Tyr Cys Pro Glu Gly Lys Val Ala Leu Met Ser Thr Gly Ser Leu His
115 120 125

Gln Leu His Val Phe Ile Phe Val Leu Ala Val Phe His Val Thr Tyr
130 135 140

Ser Val Ile Thr Ile Ala Leu Ser Arg Leu Lys Met Arg Thr Trp Lys
145 150 155 160

Lys Trp Glu Thr Glu Thr Thr Ser Leu Glu Tyr Gln Phe Ala Asn Asp
165 170 175

Pro Ala Arg Phe Arg Phe Thr His Gln Thr Ser Phe Val Lys Arg His
180 185 190

Leu Gly Leu Ser Ser Thr Pro Gly Ile Arg Trp Val Val Ala Phe Phe
195 200 205

Arg Gln Phe Phe Arg Ser Val Thr Lys Val Asp Tyr Leu Thr Leu Arg
210 215 220

Ala Gly Phe Ile Asn Ala His Leu Ser Gln Asn Ser Lys Phe Asp Phe
225 230 235 240

His Lys Tyr Ile Lys Arg Ser Met Glu Asp Asp Phe Lys Val Val Val
245 250 255

Gly Ile Ser Leu Pro Leu Trp Gly Val Ala Ile Leu Thr Leu Phe Leu
260 265 270

Asp Ile Asn Gly Val Gly Thr Leu Ile Trp Ile Ser Phe Ile Pro Leu
275 280 285

Val Ile Leu Leu Cys Val Gly Thr Lys Leu Glu Met Ile Ile Met Glu
290 295 300

Met Ala Leu Glu Ile Gln Asp Arg Ala Ser Val Ile Lys Gly Ala Pro
305 310 315 320

Val Val Glu Pro Ser Asn Lys Phe Phe Trp Phe His Arg Pro Asp Trp
325 330 335

Val Leu Phe Phe Ile His Leu Thr Leu Phe Gln Asn Ala Phe Gln Met
340 345 350

```
Ala His Phe Val Trp Thr Val Ala Thr Pro Gly Leu Lys Lys Cys Tyr
        355                 360                 365

His Thr Gln Ile Gly Leu Ser Ile Met Lys Val Val Val Gly Leu Ala
    370                 375                 380

Leu Gln Phe Leu Cys Ser Tyr Met Thr Phe Pro Leu Tyr Ala Leu Val
385                 390                 395                 400

Thr Gln Met Gly Ser Asn Met Lys Arg Ser Ile Phe Asp Glu Gln Thr
                405                 410                 415

Ser Lys Ala Leu Thr Asn Trp Arg Asn Thr Ala Lys Glu Lys Lys Lys
            420                 425                 430

Val Arg Asp Thr Asp Met Leu Met Ala Gln Met Ile Gly Asp Ala Thr
        435                 440                 445

Pro Ser Arg Gly Ser Ser Pro Met Pro Ser Arg Gly Ser Ser Pro Val
    450                 455                 460

His Leu Leu His Lys Gly Met Gly Arg Ser Asp Asp Pro Gln Ser Ala
465                 470                 475                 480

Pro Thr Ser Pro Arg Thr Gln Gln Glu Ala Arg Asp Met Tyr Pro Val
                485                 490                 495

Val Val Ala His Pro Val His Arg Leu Asn Pro Asn Asp Arg Arg Arg
            500                 505                 510

Ser Ala Ser Ser Ser Ala Leu Glu Ala Asp Ile Pro Ser Ala Asp Phe
        515                 520                 525

Ser Phe Ser Gln Gly
    530
```

<210> 40
<211> 542
<212> PRT
<213> Arabidopsis thaliana

<400> 40

```
Met Ile Thr Arg Ser Arg Cys Arg Arg Ser Leu Leu Trp Phe Leu Val
  1               5                  10                  15

Phe His Gly Gly Ala Thr Ala Thr Gly Ala Pro Ser Gly Gly Lys Glu
             20                  25                  30

Leu Ser Gln Thr Pro Thr Trp Ala Val Ala Val Val Cys Thr Phe Leu
         35                  40                  45

Ile Leu Ile Ser His Leu Leu Glu Lys Gly Leu Gln Arg Leu Ala Asn
     50                  55                  60

Trp Leu Trp Lys Lys His Lys Asn Ser Leu Leu Glu Ala Leu Glu Lys
 65                  70                  75                  80

Ile Lys Ala Glu Leu Met Ile Leu Gly Phe Ile Ser Leu Leu Leu Thr
                 85                  90                  95
```

```
Phe Gly Glu Pro Tyr Ile Leu Lys Ile Cys Val Pro Arg Lys Ala Ala
            100                 105                 110

Leu Ser Met Leu Pro Cys Leu Ser Glu Asp Thr Val Leu Phe Gln Lys
        115                 120                 125

Leu Ala Pro Ser Ser Leu Ser Arg His Leu Leu Ala Ala Gly Asp Thr
    130                 135                 140

Ser Ile Asn Cys Lys Gln Gly Ser Glu Pro Leu Ile Thr Leu Lys Gly
145                 150                 155                 160

Leu His Gln Leu His Ile Leu Leu Phe Phe Leu Ala Ile Phe His Ile
                165                 170                 175

Val Tyr Ser Leu Ile Thr Met Met Leu Ser Arg Leu Lys Ile Arg Gly
            180                 185                 190

Trp Lys Lys Trp Glu Gln Glu Thr Leu Ser Asn Asp Tyr Glu Phe Ser
        195                 200                 205

Ile Asp His Ser Arg Leu Arg Leu Thr His Glu Thr Ser Phe Val Arg
    210                 215                 220

Glu His Thr Ser Phe Trp Thr Thr Thr Pro Phe Phe Phe Tyr Val Gly
225                 230                 235                 240

Cys Phe Phe Arg Gln Phe Phe Val Ser Val Glu Arg Thr Asp Tyr Leu
                245                 250                 255

Thr Leu Arg His Gly Phe Ile Ser Ala His Leu Ala Pro Gly Arg Lys
            260                 265                 270

Phe Asn Phe Gln Arg Tyr Ile Lys Arg Ser Leu Glu Asp Asp Phe Lys
        275                 280                 285

Leu Val Val Gly Ile Ser Pro Val Leu Trp Ala Ser Phe Val Ile Phe
    290                 295                 300

Leu Leu Phe Asn Val Asn Gly Trp Arg Thr Leu Phe Trp Ala Ser Ile
305                 310                 315                 320

Pro Pro Leu Leu Ile Ile Leu Ala Val Gly Thr Lys Leu Gln Ala Ile
                325                 330                 335

Met Ala Thr Met Ala Leu Glu Ile Val Glu Thr His Ala Val Val Gln
            340                 345                 350

Gly Met Pro Leu Val Gln Gly Ser Asp Arg Tyr Phe Trp Phe Asp Cys
        355                 360                 365

Pro Gln Leu Leu Leu His Leu Ile His Phe Ala Leu Phe Gln Asn Ala
    370                 375                 380

Phe Gln Ile Thr His Phe Phe Trp Ile Trp Tyr Ser Phe Gly Leu Lys
385                 390                 395                 400

Ser Cys Phe His Lys Asp Phe Asn Leu Val Val Ser Lys Leu Phe Leu
                405                 410                 415
```

```
Cys Leu Gly Ala Leu Ile Leu Cys Ser Tyr Ile Thr Leu Pro Leu Tyr
            420                 425                 430

Ala Leu Val Thr Gln Met Gly Ser His Met Lys Lys Ala Val Phe Asp
        435                 440                 445

Glu Gln Met Ala Lys Ala Leu Lys Lys Trp His Lys Asp Ile Lys Leu
    450                 455                 460

Lys Lys Gly Lys Ala Arg Lys Leu Pro Ser Lys Thr Leu Gly Val Ser
465                 470                 475                 480

Glu Ser Phe Ser Leu Ser Ser Ser Ser Ser Ala Thr Thr Leu His Arg
                485                 490                 495

Ser Lys Thr Thr Gly His Ser Ser Asn Ile Ile Tyr Tyr Lys Gln Glu
            500                 505                 510

Asp Glu Glu Asp Glu Met Ser Asp Leu Glu Ala Gly Ala Glu Asp Ala
        515                 520                 525

Ile Asp Arg Ile Gln Gln Gln Glu Met Gln Phe His Asn Ser
    530                 535                 540
```

<210> 41
<211> 526
<212> PRT
<213> Arabidopsis thaliana

<400> 41

```
Met Gly His Gly Gly Glu Gly Met Ser Leu Glu Phe Thr Pro Thr Trp
  1               5                  10                  15

Val Val Ala Gly Val Cys Thr Val Ile Val Ala Ile Ser Leu Ala Val
             20                  25                  30

Glu Arg Leu Leu His Tyr Phe Gly Thr Val Leu Lys Lys Lys Lys Gln
         35                  40                  45

Lys Pro Leu Tyr Glu Ala Leu Gln Lys Val Lys Glu Glu Leu Met Leu
     50                  55                  60

Leu Gly Phe Ile Ser Leu Leu Leu Thr Val Phe Gln Gly Leu Ile Ser
 65                  70                  75                  80

Lys Phe Cys Val Lys Glu Asn Val Leu Met His Met Leu Pro Cys Ser
                 85                  90                  95

Leu Asp Ser Arg Arg Glu Ala Gly Ala Ser Glu His Lys Asn Val Thr
            100                 105                 110

Ala Lys Glu His Phe Gln Thr Phe Leu Pro Ile Val Gly Thr Thr Arg
        115                 120                 125

Arg Leu Leu Ala Glu His Ala Ala Val Gln Val Gly Tyr Cys Ser Glu
    130                 135                 140

Lys Gly Lys Val Pro Leu Leu Ser Leu Glu Ala Leu His His Leu His
145                 150                 155                 160
```

Ile Phe Ile Phe Val Leu Ala Ile Ser His Val Thr Phe Cys Val Leu
165 170 175

Thr Val Ile Phe Gly Ser Thr Arg Ile His Gln Trp Lys Lys Trp Glu
180 185 190

Asp Ser Ile Ala Asp Glu Lys Phe Asp Pro Glu Thr Ala Leu Arg Lys
195 200 205

Arg Arg Val Thr His Val His Asn His Ala Phe Ile Lys Glu His Phe
210 215 220

Leu Gly Ile Gly Lys Asp Ser Val Ile Leu Gly Trp Thr Gln Ser Phe
225 230 235 240

Leu Lys Gln Phe Tyr Asp Ser Val Thr Lys Ser Asp Tyr Val Thr Leu
245 250 255

Arg Leu Gly Phe Ile Met Thr His Cys Lys Gly Asn Pro Lys Leu Asn
260 265 270

Phe His Lys Tyr Met Met Arg Ala Leu Glu Asp Asp Phe Lys Gln Val
275 280 285

Val Gly Ile Ser Trp Tyr Leu Trp Ile Phe Val Val Ile Phe Leu Leu
290 295 300

Leu Asn Val Asn Gly Trp His Thr Tyr Phe Trp Ile Ala Phe Ile Pro
305 310 315 320

Phe Ala Leu Leu Leu Ala Val Gly Thr Lys Leu Glu His Val Ile Ala
325 330 335

Gln Leu Ala His Glu Val Ala Glu Lys His Val Ala Ile Glu Gly Asp
340 345 350

Leu Val Val Lys Pro Ser Asp Glu His Phe Trp Phe Ser Lys Pro Gln
355 360 365

Ile Val Leu Tyr Leu Ile His Phe Ile Leu Phe Gln Asn Ala Phe Glu
370 375 380

Ile Ala Phe Phe Phe Trp Ile Trp Val Thr Tyr Gly Phe Asp Ser Cys
385 390 395 400

Ile Met Gly Gln Val Arg Tyr Ile Val Pro Arg Leu Val Ile Gly Val
405 410 415

Phe Ile Gln Val Leu Cys Ser Tyr Ser Thr Leu Pro Leu Tyr Ala Ile
420 425 430

Val Ser Gln Met Gly Ser Ser Phe Lys Lys Ala Ile Phe Glu Glu Asn
435 440 445

Val Gln Val Gly Leu Val Gly Trp Ala Gln Lys Val Lys Gln Lys Arg
450 455 460

Asp Leu Lys Ala Ala Ala Ser Asn Gly Asp Glu Gly Ser Ser Gln Ala
465 470 475 480

```
Gly Pro Gly Pro Asp Ser Gly Ser Gly Ser Ala Pro Ala Ala Gly Pro
                485                 490                 495

Gly Ala Gly Phe Ala Gly Ile Gln Leu Ser Arg Val Thr Arg Asn Asn
            500                 505                 510

Ala Gly Asp Thr Asn Asn Glu Ile Thr Pro Asp His Asn Asn
        515                 520                 525
```

<210> 42
<211> 583
<212> PRT
<213> Arabidopsis thaliana

<400> 42

```
Met Ala Asp Gln Val Lys Glu Lys Thr Leu Glu Glu Thr Ser Thr Trp
  1               5                  10                  15

Ala Val Ala Val Val Cys Phe Val Leu Leu Leu Ile Ser Ile Val Ile
             20                  25                  30

Glu Lys Leu Ile His Lys Ile Gly Ser Trp Phe Lys Lys Lys Asn Lys
         35                  40                  45

Lys Ala Leu Tyr Glu Ala Leu Glu Lys Val Lys Ala Glu Leu Met Leu
     50                  55                  60

Met Gly Phe Ile Ser Leu Leu Leu Thr Ile Gly Gln Gly Tyr Ile Ser
 65                  70                  75                  80

Asn Ile Cys Ile Pro Lys Asn Ile Ala Ala Ser Met His Pro Cys Ser
                 85                  90                  95

Ala Ser Glu Glu Ala Arg Lys Tyr Gly Lys Lys Asp Val Pro Lys Glu
            100                 105                 110

Asp Glu Glu Glu Asn Leu Arg Arg Lys Leu Leu Gln Leu Val Asp Ser
        115                 120                 125

Leu Ile Pro Arg Arg Ser Leu Ala Thr Lys Gly Tyr Asp Lys Cys Ala
    130                 135                 140

Glu Lys Gly Lys Val Ala Phe Val Ser Ala Tyr Gly Met His Gln Leu
145                 150                 155                 160

His Ile Phe Ile Phe Val Leu Ala Val Cys His Val Ile Tyr Cys Ile
                165                 170                 175

Val Thr Tyr Ala Leu Gly Lys Thr Lys Met Arg Arg Trp Lys Lys Trp
            180                 185                 190

Glu Glu Glu Thr Lys Thr Ile Glu Tyr Gln Tyr Ser His Asp Pro Glu
        195                 200                 205

Arg Phe Arg Phe Ala Arg Asp Thr Ser Phe Gly Arg Arg His Leu Ser
    210                 215                 220

Phe Trp Ser Lys Ser Thr Ile Thr Leu Trp Ile Val Cys Phe Phe Arg
225                 230                 235                 240
```

Gln Phe Phe Arg Ser Val Thr Lys Val Asp Tyr Leu Thr Leu Arg His
245 250 255

Gly Phe Ile Met Ala His Leu Ala Pro Gly Ser Asp Ala Arg Phe Asp
260 265 270

Phe Arg Lys Tyr Ile Gln Arg Ser Leu Glu Glu Asp Phe Lys Thr Ile
275 280 285

Val Glu Ile Asn Pro Val Ile Trp Phe Ile Ala Val Leu Phe Leu Leu
290 295 300

Thr Asn Thr Asn Gly Leu Asn Ser Tyr Leu Trp Leu Pro Phe Ile Pro
305 310 315 320

Phe Ile Val Ile Leu Ile Val Gly Thr Lys Leu Gln Val Ile Ile Thr
325 330 335

Lys Leu Gly Leu Arg Ile Gln Glu Lys Gly Asp Val Val Lys Gly Thr
340 345 350

Pro Leu Val Gln Pro Gly Asp His Phe Phe Trp Phe Gly Arg Pro Arg
355 360 365

Phe Ile Leu Phe Leu Ile His Leu Val Leu Phe Thr Asn Ala Phe Gln
370 375 380

Leu Ala Phe Phe Val Trp Ser Thr Tyr Glu Phe Gly Leu Lys Asn Cys
385 390 395 400

Phe His Glu Ser Arg Val Asp Val Ile Ile Arg Ile Ser Ile Gly Leu
405 410 415

Leu Val Gln Ile Leu Cys Ser Tyr Val Thr Leu Pro Leu Tyr Ala Leu
420 425 430

Val Thr Gln Met Gly Ser Lys Met Lys Pro Thr Val Phe Asn Glu Arg
435 440 445

Val Ala Thr Ala Leu Lys Ser Trp His His Thr Ala Lys Lys Asn Ile
450 455 460

Lys His Gly Arg Thr Ser Glu Ser Thr Thr Pro Phe Ser Ser Arg Pro
465 470 475 480

Thr Thr Pro Thr His Gly Ser Ser Pro Ile His Leu Leu Arg Asn Ala
485 490 495

Pro His Lys Arg Ser Arg Ser Val Asp Glu Ser Phe Ala Asn Ser Phe
500 505 510

Ser Pro Arg Asn Ser Asp Phe Asp Ser Trp Asp Pro Glu Ser Gln His
515 520 525

Glu Thr Ala Glu Thr Ser Asn Ser Asn His Arg Ser Arg Phe Gly Glu
530 535 540

Glu Glu Ser Glu Lys Lys Phe Val Ser Ser Ser Val Glu Leu Pro Pro
545 550 555 560

Gly Pro Gly Gln Ile Arg Thr Gln His Glu Ile Ser Thr Ile Ser Leu
565 570 575

Arg Asp Phe Ser Phe Lys Arg
580